

said upper portion having a roll radius of 305 mm or less, and said lower portion having a roll radius of 310 mm or more.

12. (New) The golf club head according to claim 1, wherein said lower portion is formed by a plane surface while said upper portion is formed by a curved surface.

13. (New) The golf club head according to claim 12, comprising a metallic hollow structure.

### REMARKS

The cancellation of claims 7-11 leaves claims 1, 3, 4, 6 and new claims 12 and 13 remaining in the application. Claim 1 is amended and new claims 12 and 13 are the equivalent of previously cancelled claims 2 and 5.

Submitted herewith is a verified English translation of Japanese Patent Application No. 2000-142063, filed on May 15, 2000, and on which the present U.S. application claims priority. Each of amended claim 1, and claims 3, 4, 6, 12, and 13 finds support in the Japanese priority application and is entitled to an effective filing date of May 15, 2000.

In the Office Action, the Examiner rejected claims 1, 3, 4, and 6-11 under 35 U.S.C. § 103(a) as being unpatentable over Werner in view of Masghati et al. In making this rejection, the Examiner acknowledges that Werner does not show either an upper roll radius of from 152 mm to 305 mm nor a lower roll radius of from 310 mm to 406 mm. After noting that Masghati et al. discloses golf club face radius of 9½ inches (241.3 mm) and another such radius of 16 inches (406 mm), the Examiner concludes that "it would have been obvious to modify the device in the cited reference to Werner by incorporating a roll radius of between 152 and 305 mm for the upper portion and a roll radius of between 310 and 406 mm for the lower portion, . . ." (Office Action, page 3,

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lines 13-16.) This rejection is respectfully traversed, both as it was applied to the rejected claims and as it may be deemed to apply to amended claim 1, and claims 3, 4, 6, 12, and 13.

Werner discloses a wood golf club head having a curved face above the center of the face and a flat face below the center of the face. See column 9 lines 32-52. The cross-sections of Figs. 8, 9, 10, and 11 are taken on cutting planes making different angles TH relative to a vertical line 33 on the club face shown in Fig. 7. Therefore, none of the cross-sections illustrated in Fig. 8-11 includes a face curve as seen on the line 33. Moreover, none of the curves shown in Figs. 8-11 of Werner illustrates a roll radius as recited in claim 1. Thus, not only does Werner fail to show an upper roll radius of 305 mm or less, the reference does not show a simple curve that can be generated by a radius, as evidenced by the distances y and z in Fig. 8 and the equation on line 25 of column 9.

Masghati et al. discloses a wood golf club head having a bulge radius to develop a striking face curve "about an axis which extends parallel to a vertical axis through the center of gravity 44," (See column 4 lines 31-33) and a roll radius to define a "convex roll curvature which curves about an axis which is perpendicular to the axis 80, i.e., parallel to the axis 86." (See Fig. 18 and column 6, lines 16-25 and also lines 28-33 for a description of the angular relation of the axes 80 and 82.) Moreover, the roll radius is fixed at about 16 inches and the convex roll curvature extends over the entire face of the club. Masghati et al. also shows a "prior art" club in Fig. 10 with a roll radius of 9½ inches, but like the club head embodiment shown in Fig. 12, the convex curve having

the radius is the only such curve on the club face. Masghati et al. does not show a single club head having more than one roll radius.

As set forth in Section 2143 of the MPEP, it is well settled that to make out a *prima facie* case of obviousness based on combining references, "the proposed modification cannot change the principle of operation of a reference." (MPEP, Rev. 1, Feb. 2003, page 2100-127.

Werner, at column 4, lines 24-31, characterizes his invention, when applied to woods, as involving "an upper part of an optimum face surface shape" that "has convex curvature" and a lower part that is "flat or nearly so." He then states "[i]n this case, the benefit of curving only the upper portion was not known until the present invention was advanced." Masghati et al., on the other hand, curves only the entire face of their club head for a wood. If the teaching of Masghati et al. is used to modify the club head of Werner the result would be club face having a single curve. Therefore, the benefit of curving only the upper portion of the Werner club would no longer be available, the principle of operation of the Werner disclosure would be changed.

Hence, the combination of Werner and Masghati et al. does not provide a basis for rejection of the claims under 35 U.S.C. § 103 and claims 1, 3, 4, 6, 12, and 13 should be allowed.

Applicant respectfully requests reconsideration and reexamination of this application and the timely allowance of the pending claims.

If any extension of time under 37 C.F.R. § 1.136 is required for entry of this response, and not accounted for by an attached request and fee payment by check,

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please grant such extension and charge the required fee to our deposit account  
06-0916.

Respectfully submitted,

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